

What is claimed is:

1. An optical transmission system for performing WDM optical transmission, comprising an optical  
5 transmission device and an optical reception device;

wherein said optical transmission device includes,

an optical-supervisory-signal generation unit which generates a first optical supervisory signal  
10 being arranged on a shorter-wavelength side of main signals and containing information for use in determination of continuity of an optical transmission line and a second optical supervisory signal arranged on a longer-wavelength side of the main signals and used for  
15 supervisory control of optical communication, and

an optical multiplexing unit which generates a wavelength-multiplexed signal by optically multiplexing the main signals and the first and second optical supervisory signals, and transmits the wavelength-  
20 multiplexed signal onto said optical transmission line;  
and

said optical reception device includes,

an optical demultiplexing unit which receives said wavelength-multiplexed signal, and optically  
25 demultiplexes the wavelength-multiplexed signal into said main signals, said first optical supervisory signal, and said second optical supervisory signal, and

an optical-supervisory-signal reception  
unit which determines whether or not said optical  
transmission line is optically continuous, based on the  
first optical supervisory signal, and performs supervisory  
control of optical communication based on the second  
optical supervisory signal.

2. The optical transmission system according to  
claim 1, wherein said first optical supervisory signal  
generated by said optical-supervisory-signal generation  
unit contains clock information as said information for  
use in determination of continuity of said optical  
transmission line,

said optical-supervisory-signal reception unit  
performs an operation for extracting said clock  
information from said first optical supervisory signal,  
and determines whether or not said optical transmission  
line is optically continuous, based on whether or not the  
clock information can be extracted from the first optical  
supervisory signal, and

said optical-supervisory-signal generation unit  
and said optical-supervisory-signal reception unit  
activate an APSD (Auto Power Shut Down) function when the  
optical-supervisory-signal reception unit determines that  
the clock information cannot be extracted from the first  
optical supervisory signal.

3. An optical transmission device for performing WDM optical transmission, comprising:

an optical-supervisory-signal generation unit which generates a first optical supervisory signal being  
5 arranged on a shorter-wavelength side of first main signals and containing information for use in determination of continuity of a first optical transmission line and a second optical supervisory signal arranged on a longer-wavelength side of the first main  
10 signals and used for supervisory control of optical communication;

an optical multiplexing unit which generates a first wavelength-multiplexed signal by optically multiplexing the first main signals and the first and  
15 second optical supervisory signals, and transmits the first wavelength-multiplexed signal onto said first optical transmission line;

an optical demultiplexing unit which receives a second wavelength-multiplexed signal through a second optical transmission line, and optically demultiplexes the second wavelength-multiplexed signal into second main signals, a third optical supervisory signal, and a fourth optical supervisory signal, where the third optical supervisory signal is arranged on a shorter-wavelength  
25 side of the second main signals, and the fourth optical supervisory signal is arranged on a longer-wavelength side of the second main signals; and

an optical-supervisory-signal reception unit which determines whether or not said second optical transmission line is optically continuous, based on the third optical supervisory signal, and performs supervisory control of optical communication based on the fourth optical supervisory signal.

4. The optical transmission device according to claim 3, wherein said first optical supervisory signal generated by said optical-supervisory-signal generation unit contains first clock information as said information for use in determination of continuity of said first optical transmission line,

said optical-supervisory-signal reception unit performs an operation for extracting second clock information from said third optical supervisory signal, and determines whether or not said second optical transmission line is optically continuous, based on whether or not the second clock information can be extracted from the third optical supervisory signal, and

said optical-supervisory-signal generation unit and said optical-supervisory-signal reception unit activate an APSD (Auto Power Shut Down) function when the optical-supervisory-signal reception unit determines that the second clock information cannot be extracted from the third optical supervisory signal.